

The Hawaii-based Longline Logbook Summary Report October-December 2011¹

Pacific Islands Fisheries Science Center
Fisheries Monitoring Branch

This report summarizes data on fish catch and fishing effort by Hawaii-based longline vessels during the fourth quarter of 2011 (Q4-2011). Results are based on the date gear was hauled, as reported by vessel operators to the National Marine Fisheries Service in federal logbooks of daily fishing activity. The report covers longline operations for fishing trips completed in the fourth quarter of 2011 and most, but not all, Q4-2011 data from trips that began late in the fourth quarter and continued into the first quarter of 2012. Therefore, the Q4-2011 summary statistics reported here are preliminary.

During Q4-2011, 123 vessels were active in the Hawaii-based fleet, 2 more than in Q4-2010 (Table 1, Fig. 1). They made 413 longline trips (59 more than in Q4-2010), including 399 using deep-set gear to target tuna (63 more than in Q4-2010) and 14 using shallow-set gear to target swordfish (4 less than in Q4-2010; Fig. 2). During Q4-2011, the fleet deployed 11.9 million hooks, 1.9 million more than in Q4-2010 (Fig. 3). They fished mainly on the high seas outside the U.S. Exclusive Economic Zone (EEZ) (72% of the total hooks set), followed by the EEZ of the main Hawaiian Islands (MHI) (24%), the Northwestern Hawaiian Islands (NWHI) EEZ (3%), and the EEZ of the U.S. Pacific Remote Island Areas (PRIA, consisting of U.S. possessions Wake Island, Jarvis Island, Howland Island, Baker Island, Kingman Reef, Palmyra Atoll, and Johnston Atoll) (1%).

In Q4-2011, the Hawaii longline fleet caught 42,915 bigeye tuna (Table 1, Fig. 4); 73% were caught in waters outside the U.S. EEZ. The bigeye tuna catch-per-unit-of-effort (CPUE) on tuna-targeted trips was 3.7 fish per 1000 hooks, down 0.4 from Q4-2010 (Fig. 5). The total catch of albacore and the albacore CPUE on tuna-targeted trips in Q4-2011 were 4,514 fish and 0.29 fish per 1000 hooks, respectively (Table 1, Figs. 6-7). The total yellowfin tuna catch and the CPUE on tuna-targeted trips in Q4-2011 were 6,227 fish and 0.53 fish per 1000 hooks, respectively (Table 1, Figs. 8-9).

The Q4-2011 swordfish catch was 2,609 fish, 13% lower than the swordfish catch in Q4-2010 (Table 1, Fig. 10). In Q4-2011, swordfish CPUE on shallow-set swordfish-targeted trips was 10.2 fish per 1000 hooks, 4% lower than in Q4-2010 (Fig. 11).

The total striped marlin catch in Q4-2011 was 4,899 fish (Table 1, Fig. 12), over five times higher than the catch in Q4-2010. And the striped marlin CPUE on tuna-targeted trips was 0.42 fish per 1000 hooks, more than four times higher than in Q4-2010 (Fig. 13). The blue marlin catch in Q4-2011 was 993 fish (Table 1, Fig. 14) with a CPUE of 0.08 fish per 1000 hooks on tuna-targeted trips (Fig. 15).

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The fleet caught 19,669 sharks in Q4-2011, of which 378 (2%) were kept (Table 1). Blue shark comprised 90% of the total shark catch (17,730 fish) (Table 1, Fig. 16). Blue shark CPUE on shallow-set swordfish-targeted trips in Q4-2011 was 6.1 fish per 1000 hooks, 17% lower than in Q4-2010 (Fig. 17).

In Q4-2011, the Hawaii longline total catch of other key pelagic species included 16,890 mahimahi (Table 1, Fig. 18) with a CPUE of 1.4 fish per 1000 hooks on tuna-targeted trips (Fig. 19); 4,127 moonfish (Table 1, Fig. 20) with a CPUE of 0.34 fish per 1000 hooks on tuna-targeted trips (Fig. 21); 12,933 pomfret (Table 1, Fig. 22) with a CPUE of 1.1 fish per 1000 hooks on tuna-targeted trips (Fig. 23); and 1,294 wahoo (Table 1, Fig. 24) with a CPUE of 0.11 fish per 1000 hooks on tuna-targeted trips (Fig. 25). A high percentage of the catch of these species was kept.

The summary statistics in Table 1 are based on logbook records from all fishing areas combined and all types of longline trips—those targeting swordfish and those aimed at catching tuna. Hence, the CPUE figures in Table 1 differ from those reported above, which were calculated using data exclusively from tuna-targeted trips or swordfish-targeted trips, depending on the species of interest.

The longline logbook statistics reported above refer to all fishing areas combined. Q4-2011 summary catch and effort were also compiled by several geographical sub-areas including: the MHI EEZ; the NWHI EEZ; the PRIA EEZ; the combined EEZ of MHI, NWHI and PRIA; and waters outside the U.S. EEZ. These statistics are presented in Tables 2-6. Q4-2011 summary statistics for the entire fishing area are also presented for each distinct trip type: swordfish-targeted trips using shallow-set gear (Table 7) and tuna-targeted trips deploying deep-set gear (Table 8).

This report is available in PDF format on the PIFSC website at <http://www.pifsc.noaa.gov/fmb/reports.php>. The website also provides quarterly and yearly charts and an archive of quarterly and annual summary tables of fish catch and fishing effort from 1991 to the present. The statistics in the online graphs and archived tables are updated periodically as new records are added to the database and corrections are made.

Table 1. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	123
Time Period	4th Quarter 2011				Number of trips	413
Fishing Area	All Areas				Number of sets	5,077
Trip Types	All Trip Types				Number of hooks set	11,956,807

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	993	988	5	0.08
Striped marlin	4,899	4,859	40	0.41
Shortbill spearfish	2,729	2,707	22	0.23
Swordfish	2,609	2,302	307	0.22
Other billfishes	80	78	2	0.01
Total	11,310	10,934	376	0.95
Sharks				
Blue shark	17,730	139	17,591	1.48
Mako sharks	722	154	568	0.06
Thresher sharks	947	70	877	0.08
Oceanic whitetip shark	150	11	139	0.01
Silky shark	18	0	18	0.00
Other sharks	102	4	98	0.01
Total	19,669	378	19,291	1.65
Tunas				
Albacore	4,514	4,414	100	0.38
Bigeye tuna	42,915	42,211	704	3.59
Yellowfin tuna	6,227	6,126	101	0.52
Bluefin tuna	0	0	0	0.00
Skipjack tuna	4,322	4,267	55	0.36
Other tunas	2	2	0	0.00
Total	57,980	57,020	960	4.85
Other PMUS				
Mahimahi	16,890	16,680	210	1.41
Moonfish	4,127	4,051	76	0.35
Wahoo	1,294	1,286	8	0.11
Oilfish	10,100	10,023	77	0.84
Pomfret	12,933	12,697	236	1.08
Total	45,344	44,737	607	3.79
Total PMUS	134,303	113,069	21,234	11.23
Total Non-PMUS	574	155	419	0.05
Total All Species	134,877	113,224	21,653	11.28

Table 2. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	111
Time Period	4th Quarter 2011				Number of trips	276
Fishing Area	Main Hawaiian Islands EEZ				Number of sets	2,002
Trip Types	All Trip Types				Number of hooks set	4,761,998

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	366	363	3	0.08
Striped marlin	2,201	2,183	18	0.46
Shortbill spearfish	739	736	3	0.16
Swordfish	243	153	90	0.05
Other billfishes	32	32	0	0.01
Total	3,581	3,467	114	0.75
Sharks				
Blue shark	6,711	97	6,614	1.41
Mako sharks	158	58	100	0.03
Thresher sharks	393	25	368	0.08
Oceanic whitetip shark	95	5	90	0.02
Silky shark	12	0	12	0.00
Other sharks	49	4	45	0.01
Total	7,418	189	7,229	1.56
Tunas				
Albacore	802	801	1	0.17
Bigeye tuna	15,084	14,874	210	3.17
Yellowfin tuna	2,224	2,177	47	0.47
Bluefin tuna	0	0	0	0.00
Skipjack tuna	1,896	1,867	29	0.40
Other tunas	0	0	0	0.00
Total	20,006	19,719	287	4.20
Other PMUS				
Mahimahi	7,513	7,413	100	1.58
Moonfish	933	925	8	0.20
Wahoo	354	351	3	0.07
Oilfish	3,697	3,678	19	0.78
Pomfret	5,421	5,317	104	1.14
Total	17,918	17,684	234	3.76
Total PMUS	48,923	41,059	7,864	10.27
Total Non-PMUS	172	116	56	0.04
Total All Species	49,095	41,175	7,920	10.31

Table 3. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	53
Time Period	4th Quarter 2011				Number of trips	68
Fishing Area	Northwestern Hawaiian Islands EEZ				Number of sets	626
Trip Types	All Trip Types				Number of hooks set	1,478,493

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	196	196	0	0.13
Striped marlin	817	807	10	0.55
Shortbill spearfish	514	511	3	0.35
Swordfish	49	42	7	0.03
Other billfishes	20	20	0	0.01
Total	1,596	1,576	20	1.08
Sharks				
Blue shark	4,599	7	4,592	3.11
Mako sharks	37	15	22	0.03
Thresher sharks	154	35	119	0.10
Oceanic whitetip shark	27	6	21	0.02
Silky shark	6	0	6	0.00
Other sharks	9	0	9	0.01
Total	4,832	63	4,769	3.27
Tunas				
Albacore	1,434	1,424	10	0.97
Bigeye tuna	6,229	6,056	173	4.21
Yellowfin tuna	1,041	1,015	26	0.70
Bluefin tuna	0	0	0	0.00
Skipjack tuna	389	386	3	0.26
Other tunas	0	0	0	0.00
Total	9,093	8,881	212	6.15
Other PMUS				
Mahimahi	1,617	1,608	9	1.09
Moonfish	379	378	1	0.26
Wahoo	164	164	0	0.11
Oilfish	1,425	1,413	12	0.96
Pomfret	1,030	1,029	1	0.70
Total	4,615	4,592	23	3.12
Total PMUS	20,136	15,112	5,024	13.62
Total Non-PMUS	16	11	5	0.01
Total All Species	20,152	15,123	5,029	13.63

Table 4. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	4
Time Period	4th Quarter 2011				Number of trips	4
Fishing Area	Pacific Remote Island Areas (PRIA) EEZ				Number of sets	18
Trip Types	All Trip Types				Number of hooks set	41,352

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	6	6	0	0.15
Striped marlin	9	9	0	0.22
Shortbill spearfish	24	24	0	0.58
Swordfish	1	1	0	0.02
Other billfishes	1	1	0	0.02
Total	41	41	0	0.99
Sharks				
Blue shark	43	0	43	1.04
Mako sharks	2	0	2	0.05
Thresher sharks	6	0	6	0.15
Oceanic whitetip shark	0	0	0	0.00
Silky shark	0	0	0	0.00
Other sharks	0	0	0	0.00
Total	51	0	51	1.23
Tunas				
Albacore	11	11	0	0.27
Bigeye tuna	245	245	0	5.92
Yellowfin tuna	127	127	0	3.07
Bluefin tuna	0	0	0	0.00
Skipjack tuna	22	22	0	0.53
Other tunas	0	0	0	0.00
Total	405	405	0	9.79
Other PMUS				
Mahimahi	80	80	0	1.93
Moonfish	15	15	0	0.36
Wahoo	9	9	0	0.22
Oilfish	43	43	0	1.04
Pomfret	76	76	0	1.84
Total	223	223	0	5.39
Total PMUS	720	669	51	17.41
Total Non-PMUS	0	0	0	0.00
Total All Species	720	669	51	17.41

Table 5. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	116
Time Period	4th Quarter 2011				Number of trips	319
Fishing Area	Hawaiian Islands EEZ + PRIA EEZ				Number of sets	2,646
Trip Types	All Trip Types				Number of hooks set	6,281,843

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	568	565	3	0.09
Striped marlin	3,027	2,999	28	0.48
Shortbill spearfish	1,277	1,271	6	0.20
Swordfish	293	196	97	0.05
Other billfishes	53	53	0	0.01
Total	5,218	5,084	134	0.83
Sharks				
Blue shark	11,353	104	11,249	1.81
Mako sharks	197	73	124	0.03
Thresher sharks	553	60	493	0.09
Oceanic whitetip shark	122	11	111	0.02
Silky shark	18	0	18	0.00
Other sharks	58	4	54	0.01
Total	12,301	252	12,049	1.96
Tunas				
Albacore	2,247	2,236	11	0.36
Bigeye tuna	21,558	21,175	383	3.43
Yellowfin tuna	3,392	3,319	73	0.54
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2,307	2,275	32	0.37
Other tunas	0	0	0	0.00
Total	29,504	29,005	499	4.70
Other PMUS				
Mahimahi	9,210	9,101	109	1.47
Moonfish	1,327	1,318	9	0.21
Wahoo	527	524	3	0.08
Oilfish	5,165	5,134	31	0.82
Pomfret	6,527	6,422	105	1.04
Total	22,756	22,499	257	3.62
Total PMUS	69,779	56,840	12,939	11.11
Total Non-PMUS	188	127	61	0.03
Total All Species	69,967	56,967	13,000	11.14

Table 6. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	118
Time Period	4th Quarter 2011				Number of trips	283
Fishing Area	Outside U.S. EEZ				Number of sets	2,431
Trip Types	All Trip Types				Number of hooks set	5,674,964

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	425	423	2	0.07
Striped marlin	1,872	1,860	12	0.33
Shortbill spearfish	1,452	1,436	16	0.26
Swordfish	2,316	2,106	210	0.41
Other billfishes	27	25	2	0.00
Total	6,092	5,850	242	1.07
Sharks				
Blue shark	6,377	35	6,342	1.12
Mako sharks	525	81	444	0.09
Thresher sharks	394	10	384	0.07
Oceanic whitetip shark	28	0	28	0.00
Silky shark	0	0	0	0.00
Other sharks	44	0	44	0.01
Total	7,368	126	7,242	1.30
Tunas				
Albacore	2,267	2,178	89	0.40
Bigeye tuna	21,357	21,036	321	3.76
Yellowfin tuna	2,835	2,807	28	0.50
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2,015	1,992	23	0.36
Other tunas	2	2	0	0.00
Total	28,476	28,015	461	5.02
Other PMUS				
Mahimahi	7,680	7,579	101	1.35
Moonfish	2,800	2,733	67	0.49
Wahoo	767	762	5	0.14
Oilfish	4,935	4,889	46	0.87
Pomfret	6,406	6,275	131	1.13
Total	22,588	22,238	350	3.98
Total PMUS	64,524	56,229	8,295	11.37
Total Non-PMUS	386	28	358	0.07
Total All Species	64,910	56,257	8,653	11.44

Table 7. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	11
Time Period	4th Quarter 2011				Number of trips	14
Fishing Area	All Areas				Number of sets	201
Trip Types	Swordfish Targeted Trips				Number of hooks set	205,367

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	0	0	0	0.00
Striped marlin	3	0	3	0.01
Shortbill spearfish	9	3	6	0.04
Swordfish	2,097	1,936	161	10.21
Other billfishes	2	0	2	0.01
Total	2,111	1,939	172	10.28
Sharks				
Blue shark	1,247	0	1,247	6.07
Mako sharks	264	14	250	1.29
Thresher sharks	8	0	8	0.04
Oceanic whitetip shark	0	0	0	0.00
Silky shark	0	0	0	0.00
Other sharks	9	0	9	0.04
Total	1,528	14	1,514	7.44
Tunas				
Albacore	1,123	1,036	87	5.47
Bigeye tuna	6	6	0	0.03
Yellowfin tuna	1	1	0	0.00
Bluefin tuna	0	0	0	0.00
Skipjack tuna	2	2	0	0.01
Other tunas	2	2	0	0.01
Total	1,134	1,047	87	5.52
Other PMUS				
Mahimahi	53	41	12	0.26
Moonfish	98	38	60	0.48
Wahoo	1	1	0	0.00
Oilfish	102	77	25	0.50
Pomfret	19	9	10	0.09
Total	273	166	107	1.33
Total PMUS	5,046	3,166	1,880	24.57
Total Non-PMUS	3	0	3	0.01
Total All Species	5,049	3,166	1,883	24.59

Table 8. Quarterly summary report of fishing effort and catch statistics for U.S. longline vessels landing in Hawaii as derived from NMFS Western Pacific Daily Longline Fishing Log records. [PIFSC Information Management System, Longline Logbook Data, 2/8/2012 1:55:37PM].

Report Coverage					Number of vessels active	121
Time Period	4th Quarter 2011				Number of trips	399
Fishing Area	All Areas				Number of sets	4,876
Trip Types	Tuna Targeted Trips				Number of hooks set	11,751,440

Pelagic Management Unit Species (PMUS)	Number Caught	Number Kept	Number Released	CPUE - Number Caught per 1000 hooks
Billfishes				
Blue marlin	993	988	5	0.08
Striped marlin	4,896	4,859	37	0.42
Shortbill spearfish	2,720	2,704	16	0.23
Swordfish	512	366	146	0.04
Other billfishes	78	78	0	0.01
Total	9,199	8,995	204	0.78
Sharks				
Blue shark	16,483	139	16,344	1.40
Mako sharks	458	140	318	0.04
Thresher sharks	939	70	869	0.08
Oceanic whitetip shark	150	11	139	0.01
Silky shark	18	0	18	0.00
Other sharks	93	4	89	0.01
Total	18,141	364	17,777	1.54
Tunas				
Albacore	3,391	3,378	13	0.29
Bigeye tuna	42,909	42,205	704	3.65
Yellowfin tuna	6,226	6,125	101	0.53
Bluefin tuna	0	0	0	0.00
Skipjack tuna	4,320	4,265	55	0.37
Other tunas	0	0	0	0.00
Total	56,846	55,973	873	4.84
Other PMUS				
Mahimahi	16,837	16,639	198	1.43
Moonfish	4,029	4,013	16	0.34
Wahoo	1,293	1,285	8	0.11
Oilfish	9,998	9,946	52	0.85
Pomfret	12,914	12,688	226	1.10
Total	45,071	44,571	500	3.84
Total PMUS	129,257	109,903	19,354	11.00
Total Non-PMUS	571	155	416	0.05
Total All Species	129,828	110,058	19,770	11.05

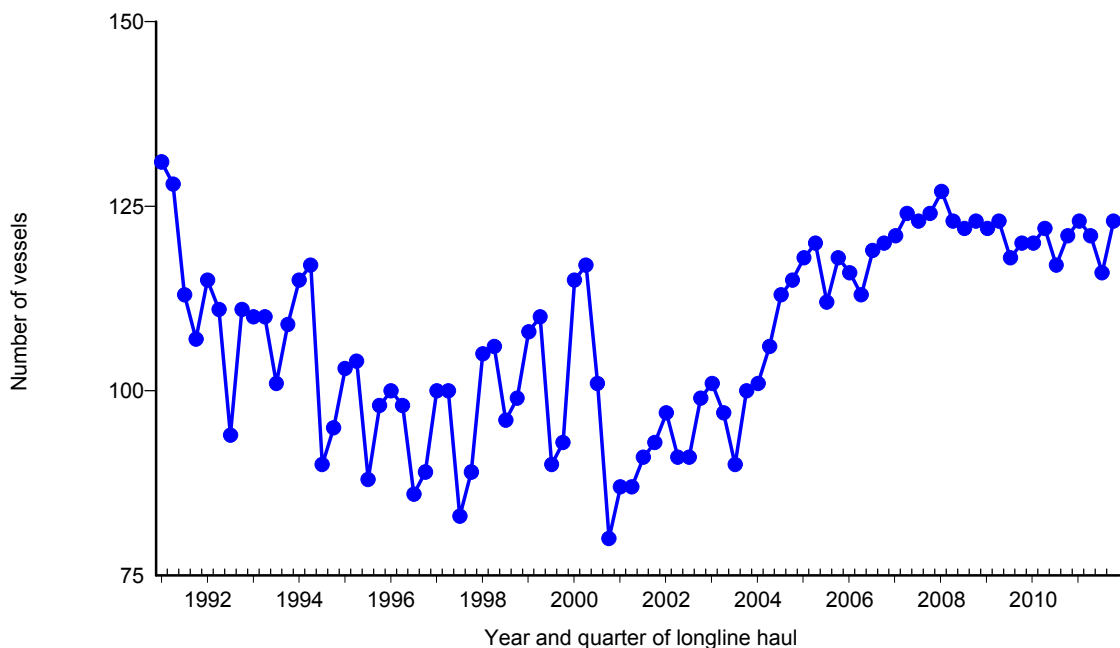


Figure 1. Number of active longline vessels based and landing in Hawaii, by quarter, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:02PM]

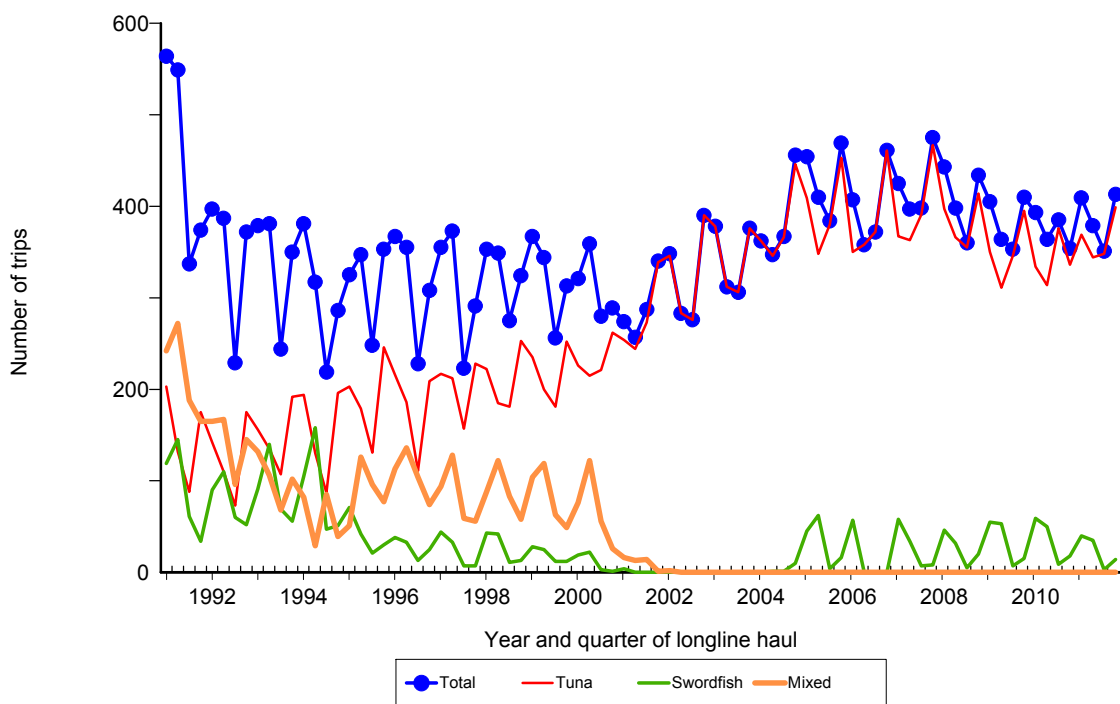


Figure 2. Number of fishing trips by longline vessels based and landing in Hawaii, by quarter and trip type, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:02PM]

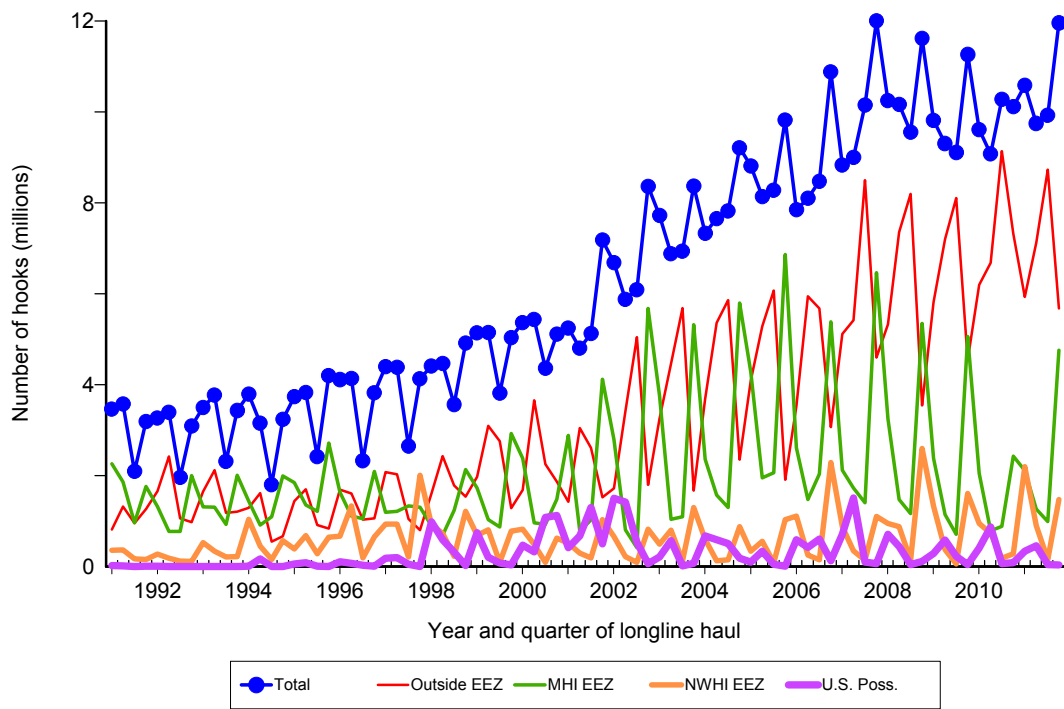


Figure 3. Number of hooks set by longline vessels based and landing in Hawaii, by quarter and fishing area, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:06PM]

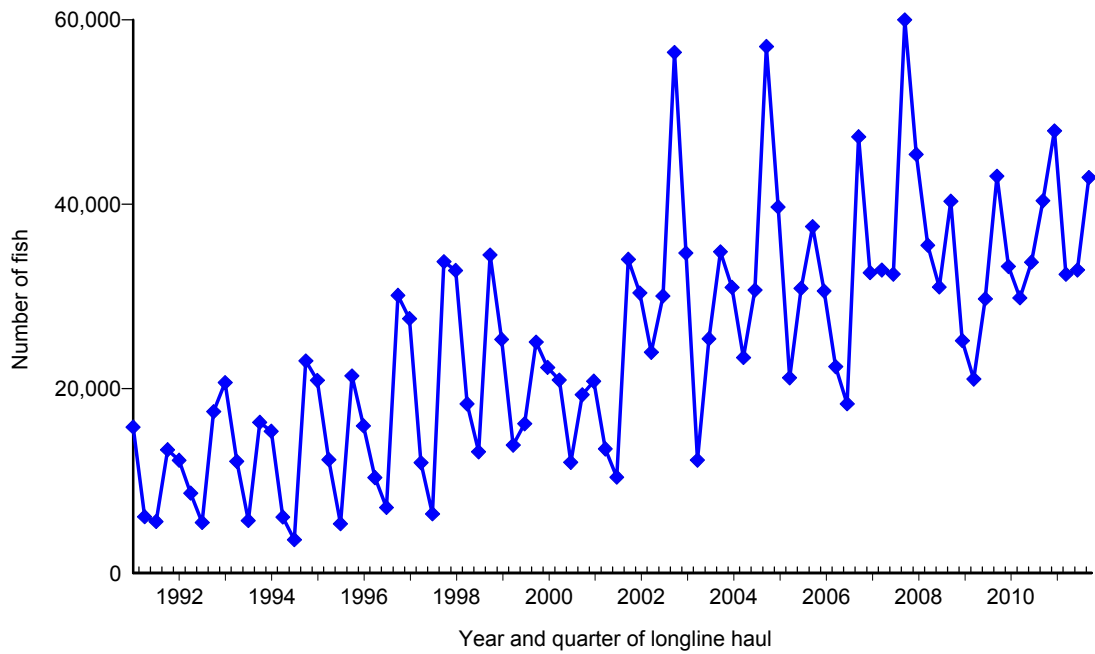


Figure 4. Quarterly catch of bigeye tuna by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:27PM]

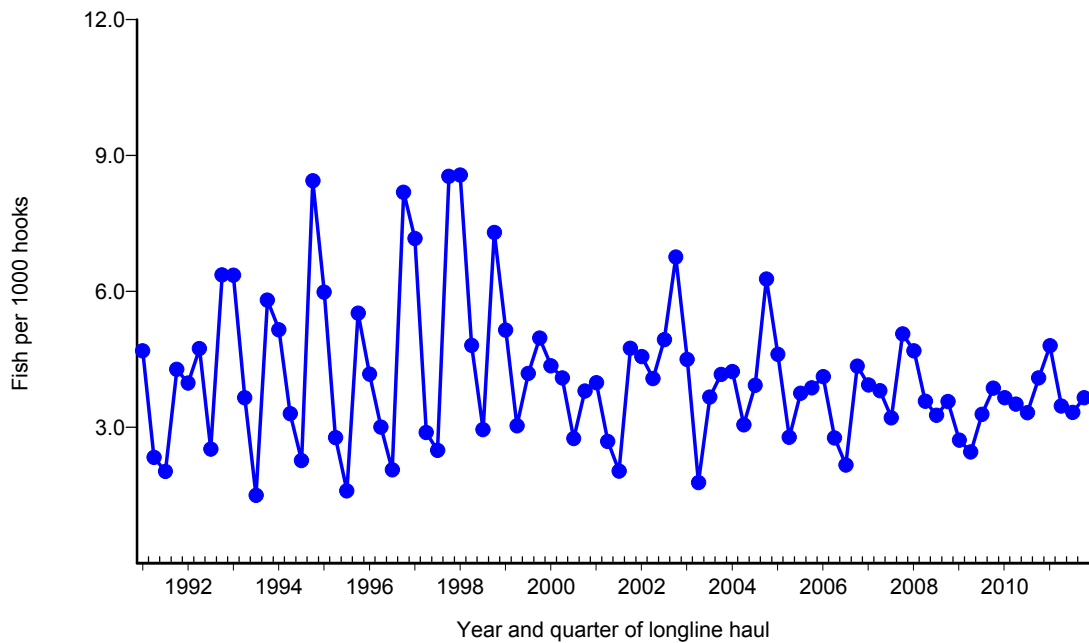


Figure 5. Quarterly CPUE of bigeye tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:27PM]

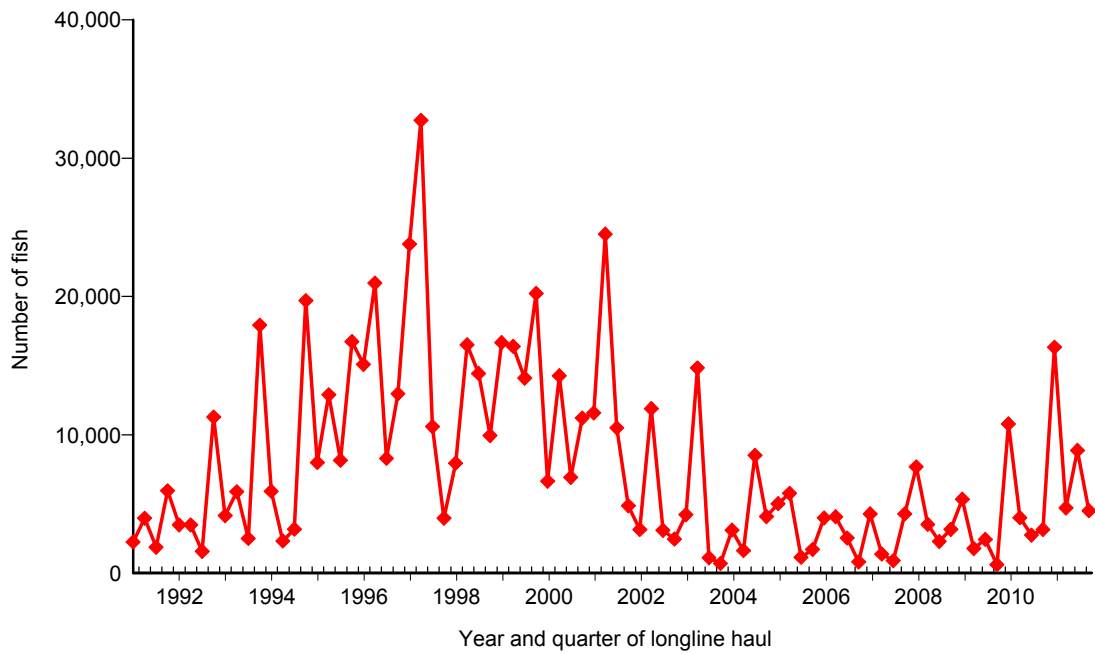


Figure 6. Quarterly catch of albacore by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:57PM]

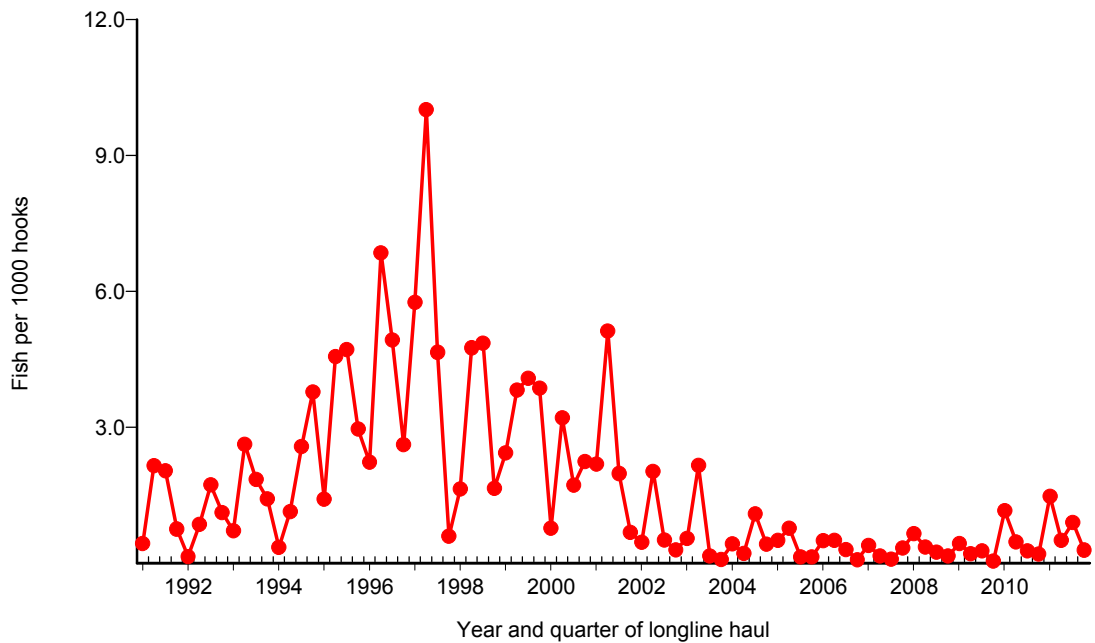


Figure 7. Quarterly CPUE of albacore (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:23:57PM]

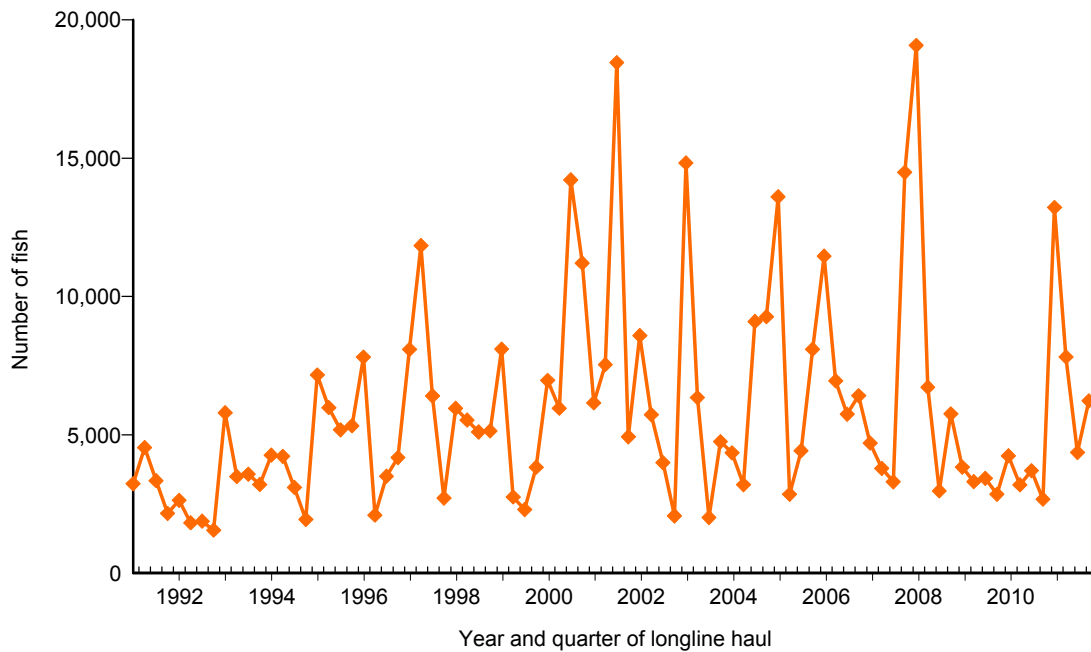


Figure 8. Quarterly catch of yellowfin tuna by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:24:20PM]

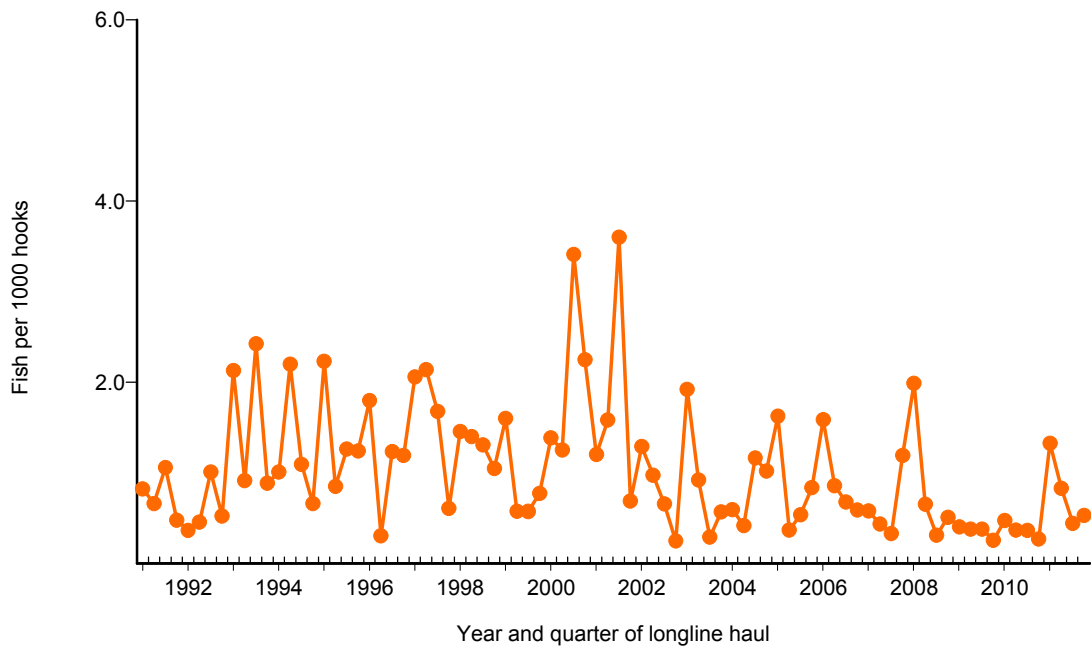


Figure 9. Quarterly CPUE of yellowfin tuna (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:24:20PM]

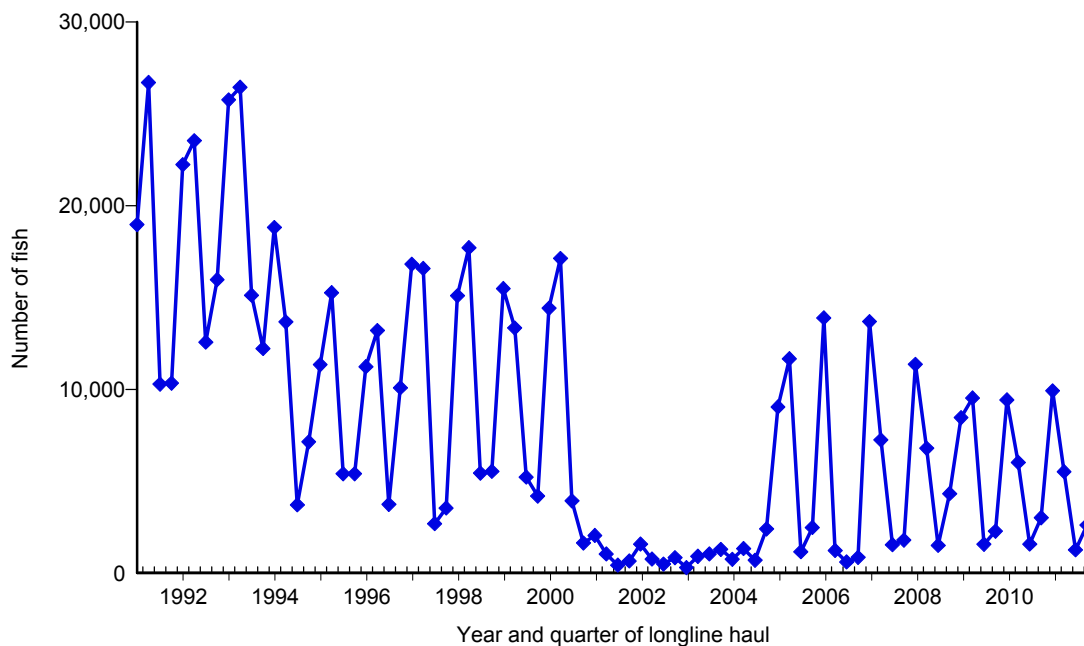


Figure 10. Quarterly catch of swordfish by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:24:44PM]

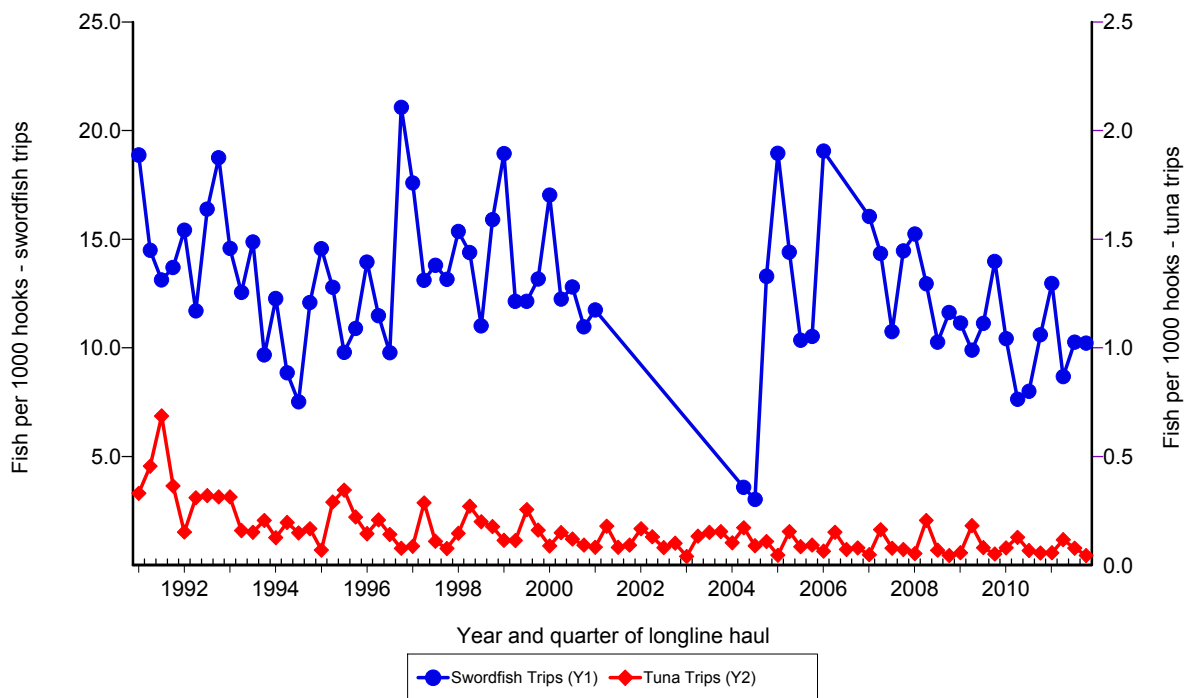


Figure 11. Quarterly CPUE of swordfish (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:24:44PM]

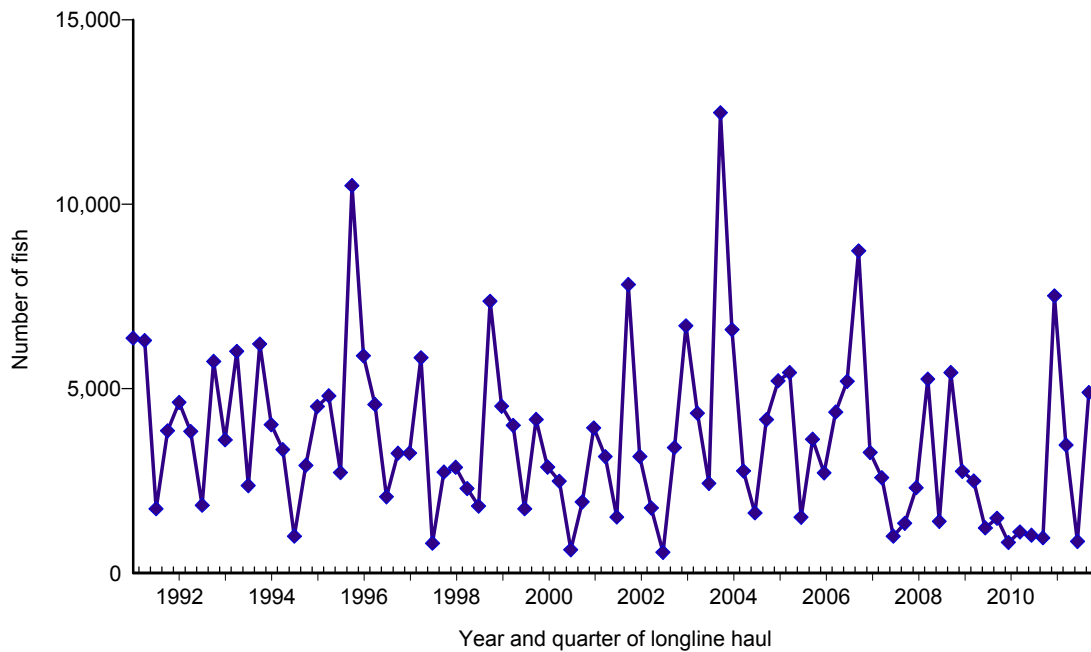


Figure 12. Quarterly catch of striped marlin by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:25:09PM]

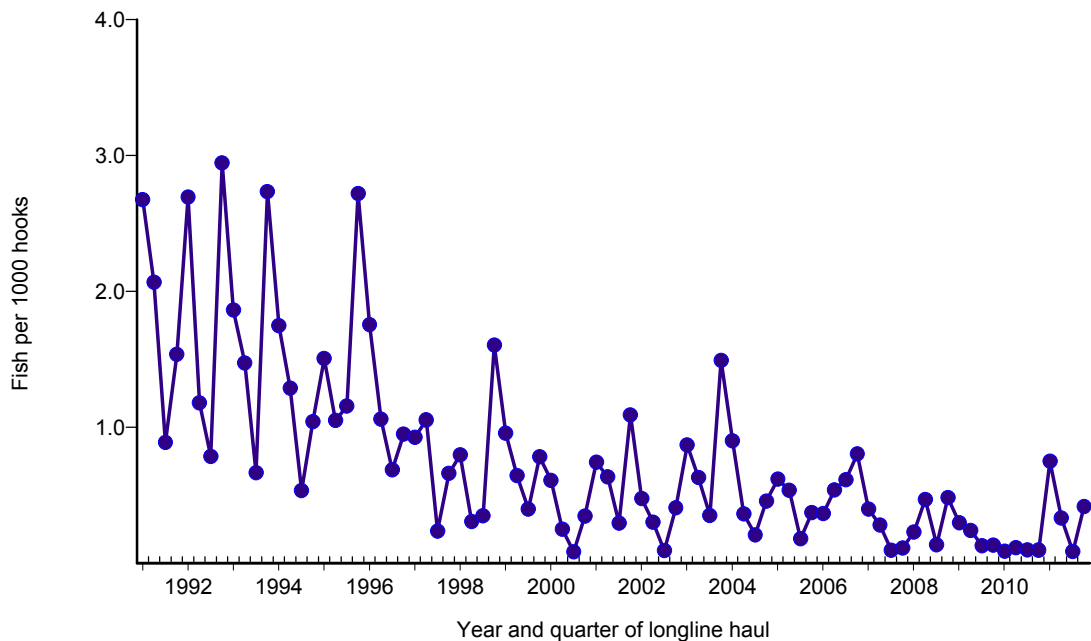


Figure 13. Quarterly CPUE of striped marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:25:09PM]

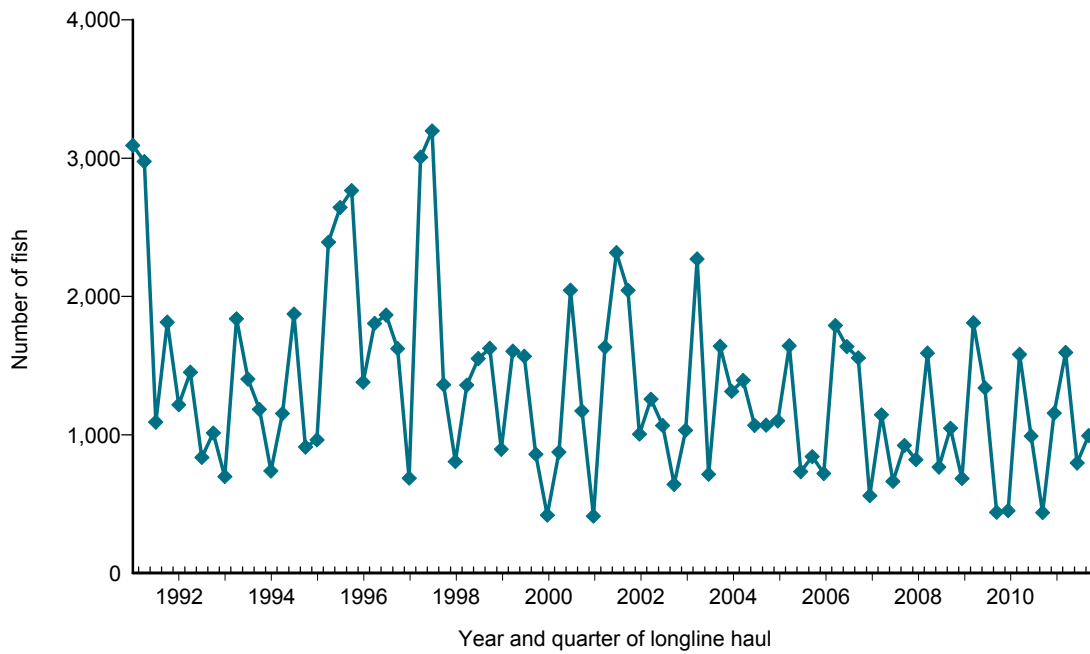


Figure 14. Quarterly catch of blue marlin by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:25:33PM]

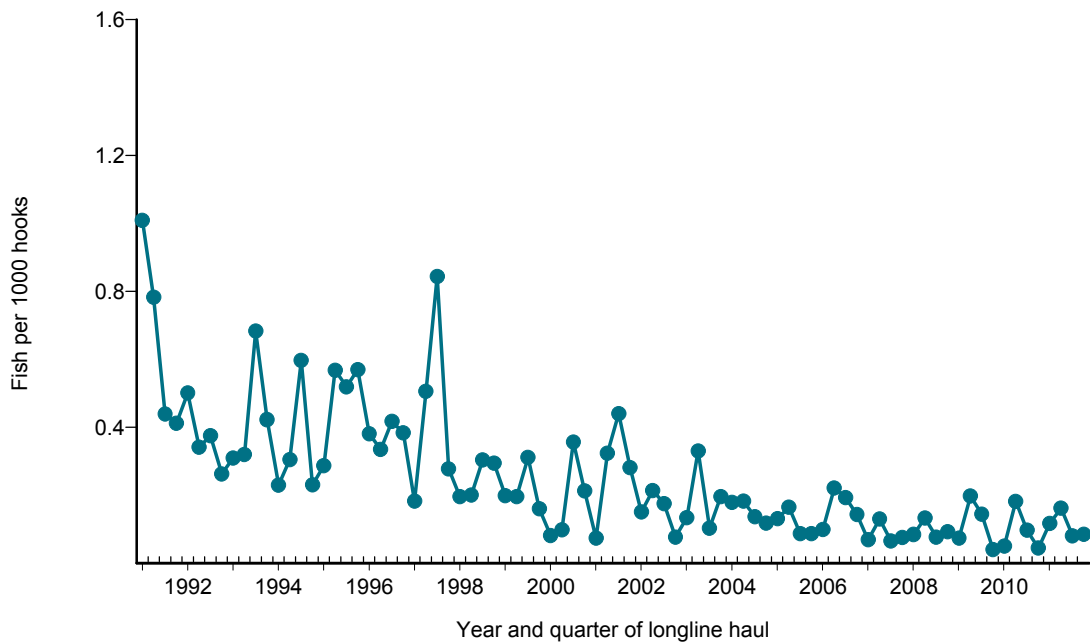


Figure 15. Quarterly CPUE of blue marlin (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:25:33PM]

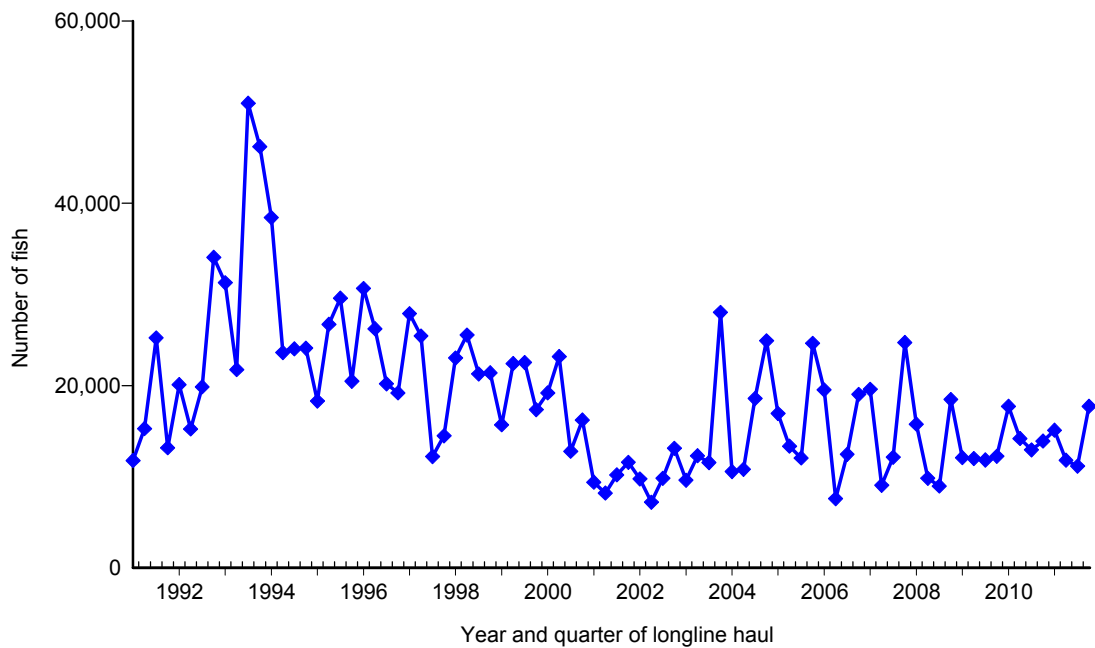


Figure 16. Quarterly catch of blue shark by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:25:57PM]

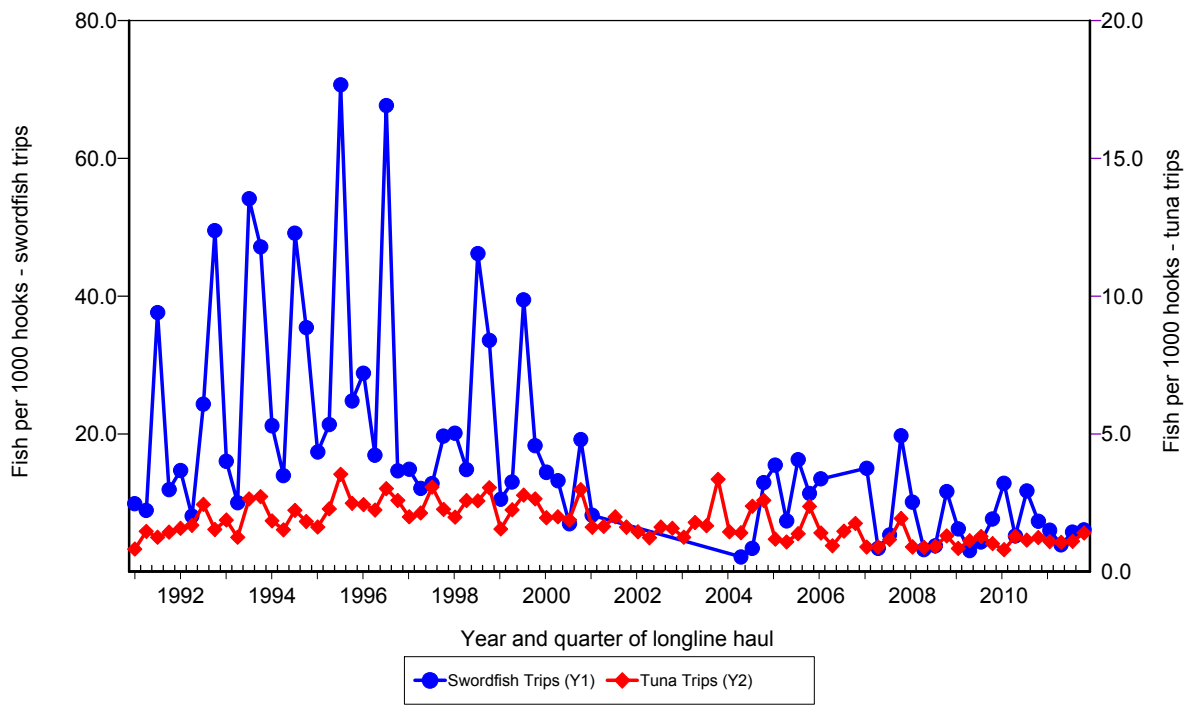


Figure 17. Quarterly CPUE of blue shark (fish per 1000 hooks) on swordfish trips and tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:25:57PM]

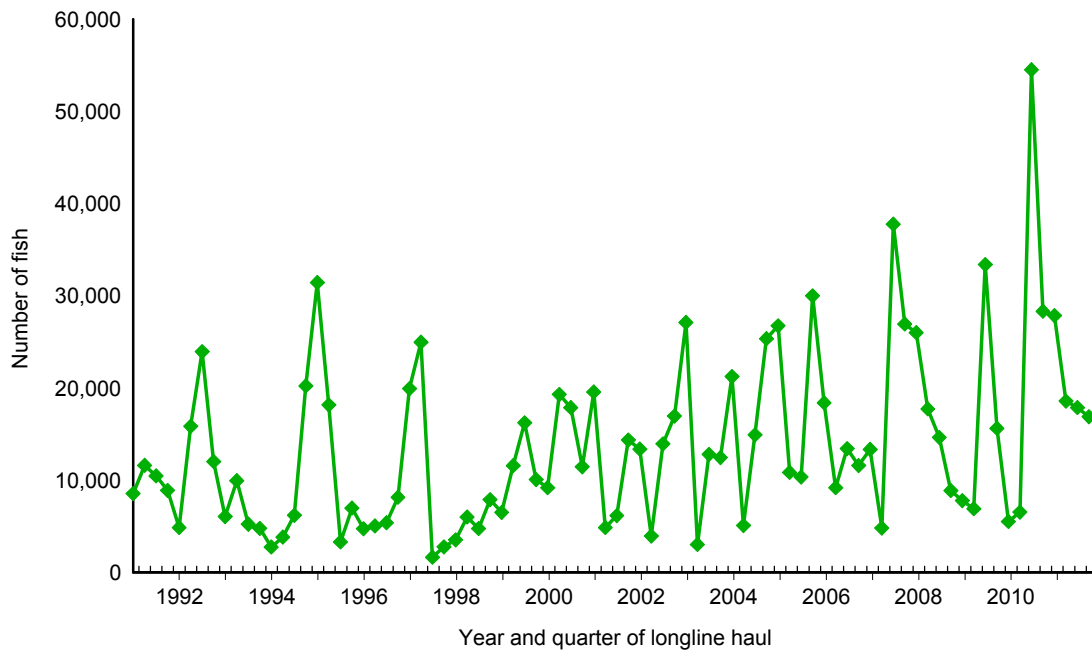


Figure 18. Quarterly catch of mahimahi by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:26:23PM]

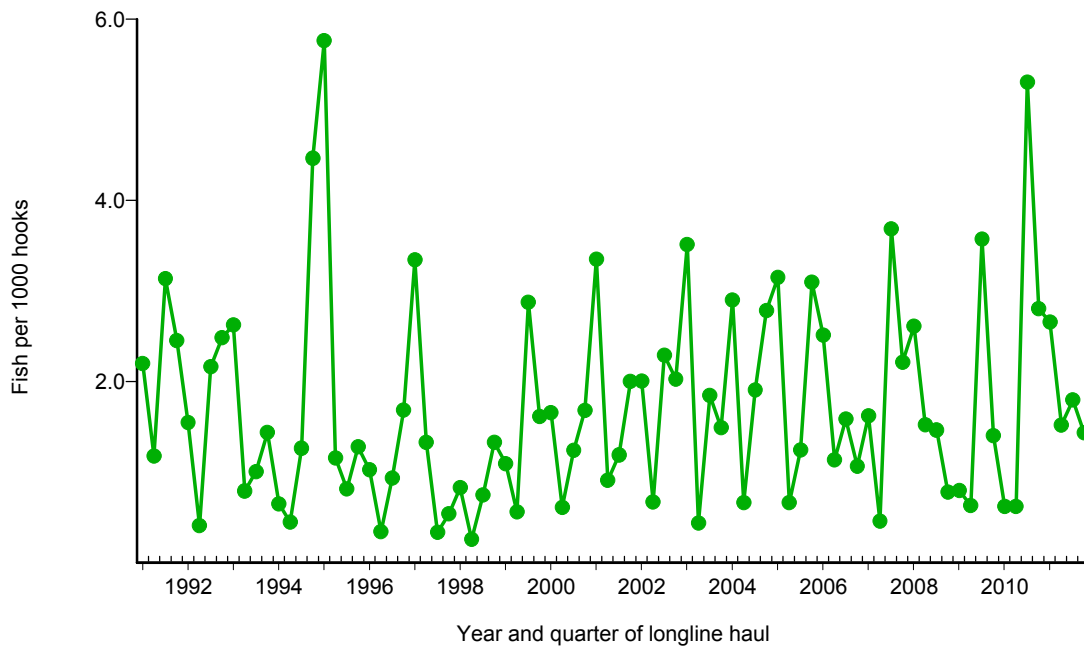


Figure 19. Quarterly CPUE of mahimahi (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:26:23PM]

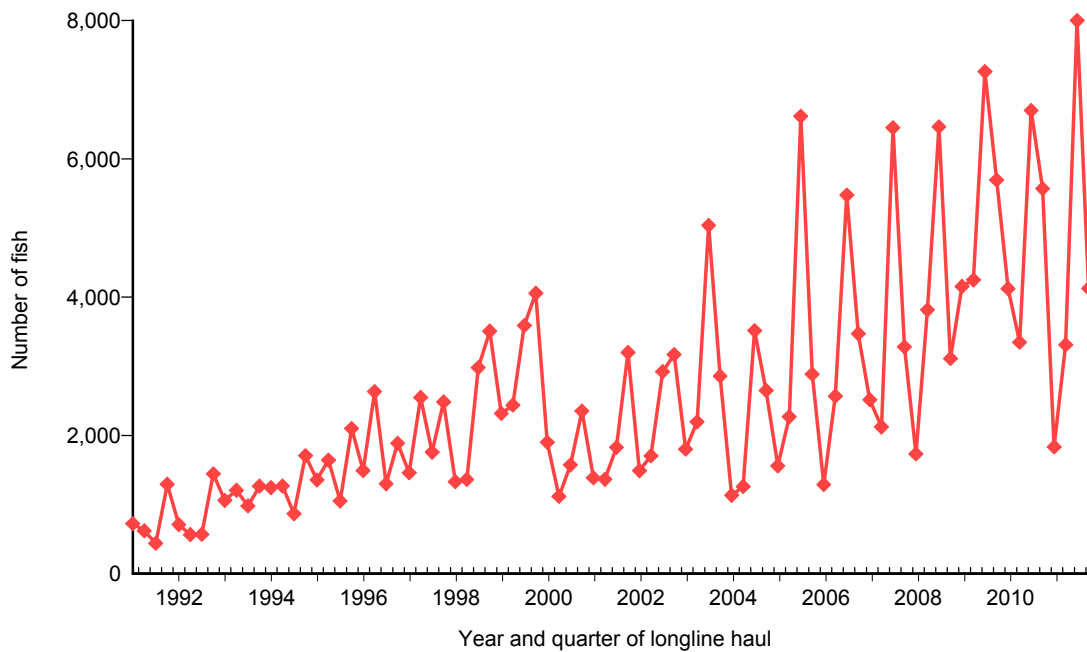


Figure 20. Quarterly catch of moonfish by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:26:48PM]

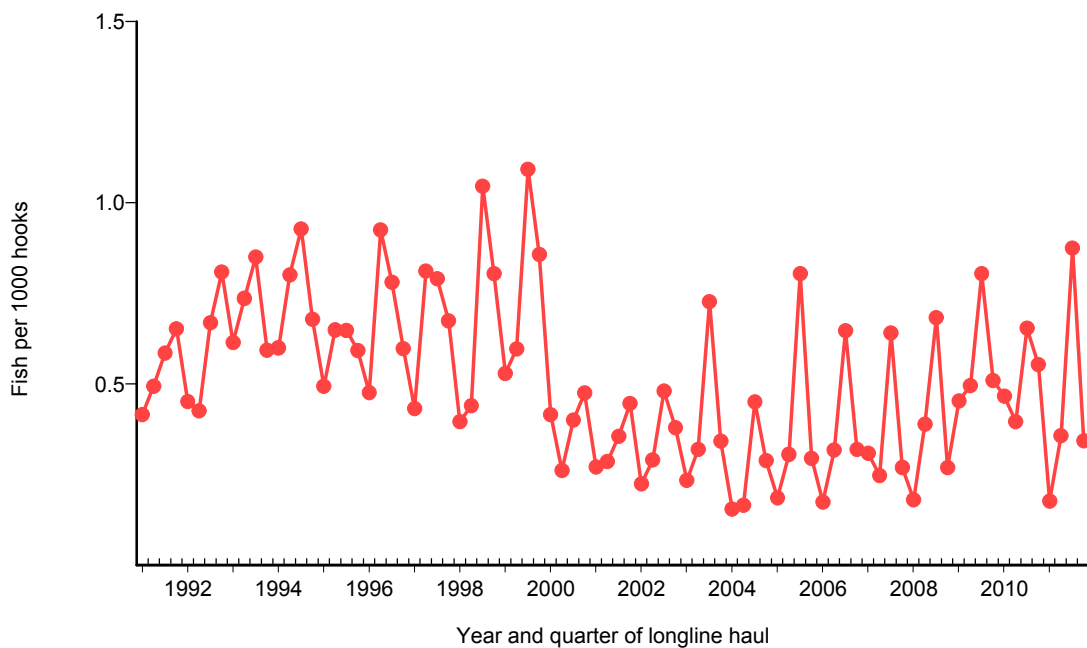


Figure 21. Quarterly CPUE of moonfish (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:26:48PM]

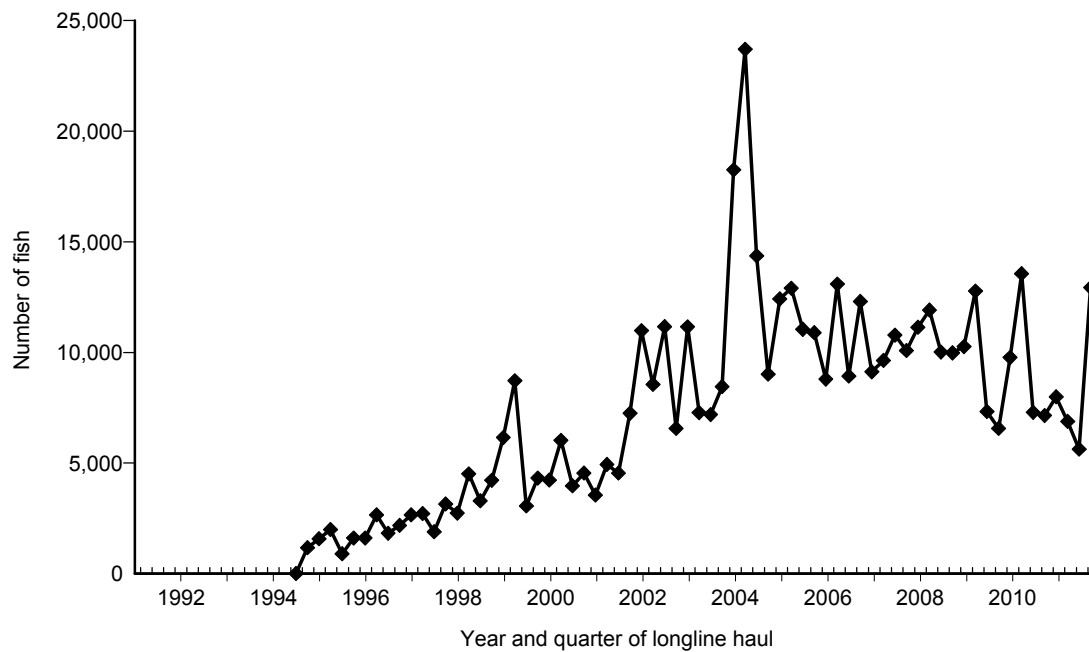


Figure 22. Quarterly catch of pomfret by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:27:12PM]

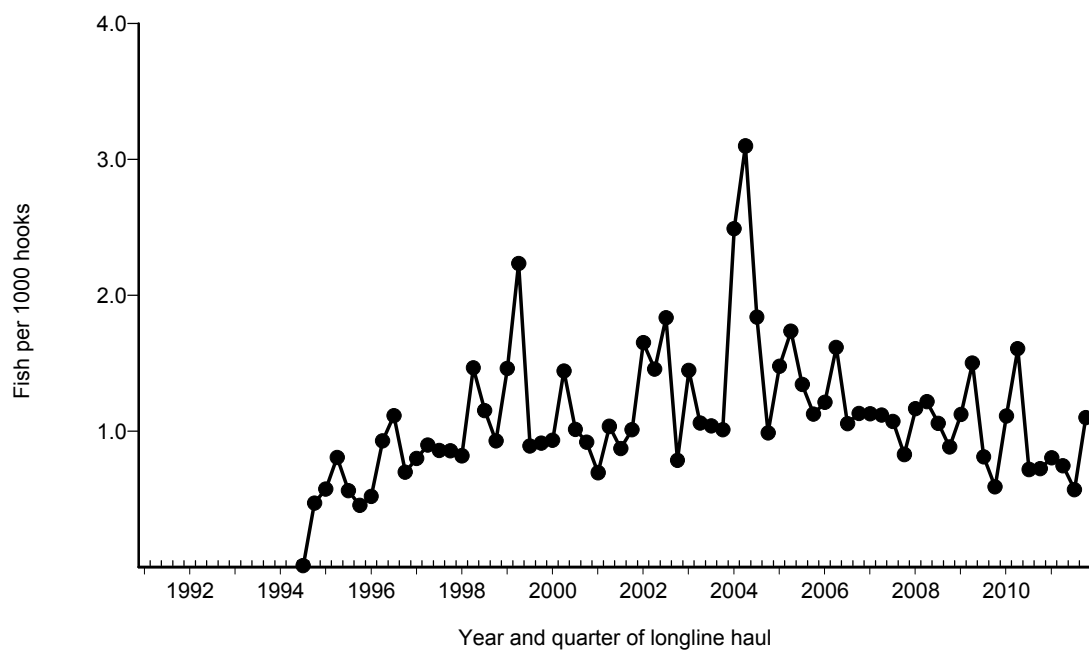


Figure 23. Quarterly CPUE of pomfret (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:27:12PM]

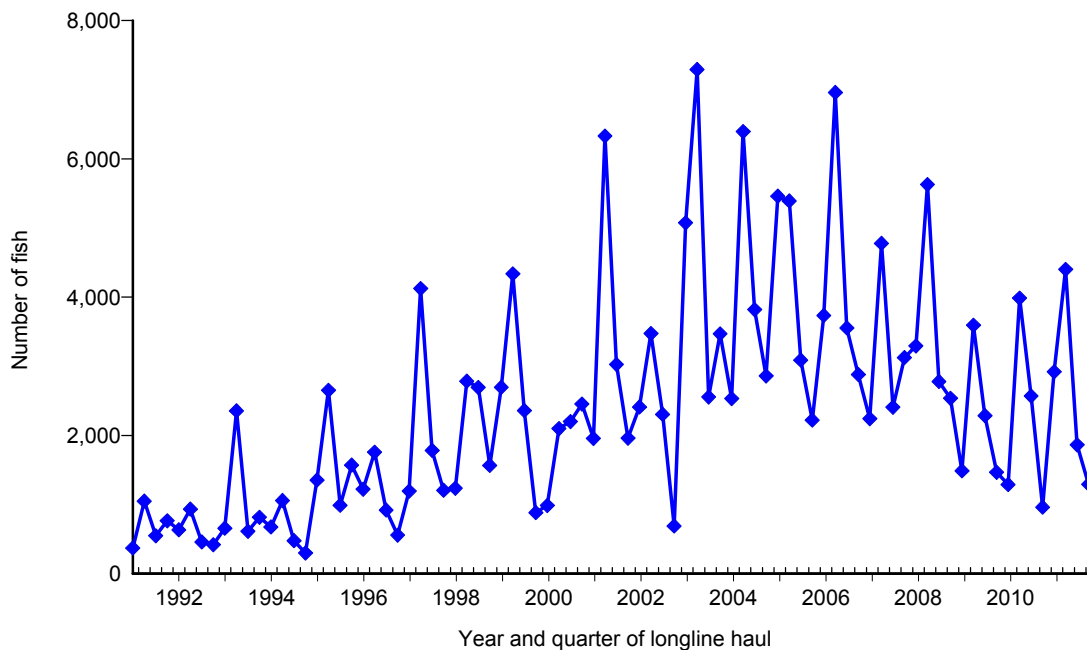


Figure 24. Quarterly catch of wahoo by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:27:38PM]

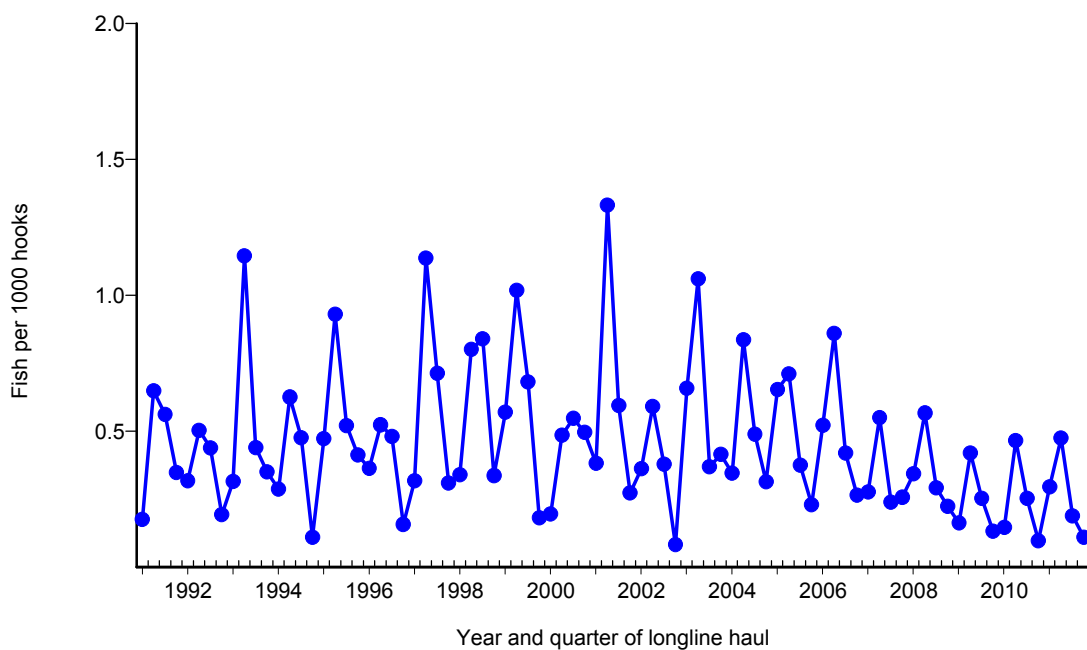


Figure 25. Quarterly CPUE of wahoo (fish per 1000 hooks) on tuna trips by longline vessels based and landing in Hawaii, 1991-2011. [PIFSC IMS, Longline Logbook Data, 2/9/2012 2:27:38PM]